A GEOPHYSICAL REPORT

ON

THE RAY CLAIM GROUP

Watson Lake Mining Division
Yukon Territory

FOR

J. C. STEPHEN EXPLORATIONS LTD.

Vancouver, B.C.

BY

PETER E. WALCOTT & ASSOCIATES LIMITED
Vancouver, B.C.

OCTOBER 1980

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$ 6,400.00

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

E. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

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APPENDIX

ACCOMPANYING MAPS — MAP POCKET

INTRODUCTION.

Between September 4th and 12th, 1980, Peter E. Walcott & Associates Limited undertook a limited linecutting and magnetic and induced polarization (I.P.) surveying programme on the Ray claim group for J.C. Stephen Exploration Ltd.

Four east west lines were brushed out, rechained and surveyed using the above mentioned methods.

Measurements (first and second separation) of apparent chargeability (the I.P. response parameter were taken every 200 feet along the picket lines using a dipole of 200 feet. In addition simultaneous readings of the apparent resistivities were also obtained.

Values of the total intensity of the earth's field were observed on the magnetic survey using a Barringer proton magnetometer.

The data are presented in profile form on Map No. W-287-2 that accompanies this report.

The progress of the survey was severely hampered by the inclement weather that prevailed around the Mt. Murray area during the time of the survey. In particular local fog conditions caused abandonment and/or postponement of the camp move on two occasions.

PROPERTY, LOCATION AND ACCESS.

The property, known as the Ray group, is located at or near the tree line on the southeast side of Mt. Murray, about six miles south of Mile 18 on the Nahanni Ridge road which services Cantung.

The property consists of the following claims:

Claim Name	Record No.	Record Dates.
RAY 1 - 8	YA25724 - 731	Sept. 9
9 - 16	25910 - 917	Sept. 16
17 - 24	25918 - 925	Sept. 16
25 - 32	25950 - 957	Sept. 19
33 - 40	25926 - 933	Sept. 16
41 - 48	25934 - 941	Sept. 16
49 - 56	25942 - 949	Sept. 16
57 - 64	25958 - 965	Sept. 19
65 - 72	25966 - 973	Sept. 21
73 - 80	26096 - 103	Sept. 26

Access was obtained by means of helicopter from a clearing at Queen Creek on the Nahanni Ridge road.

PURPOSE.

The purpose of the survey was to investigate the geophysical nature of the skarn zone at the granite-sedimentary contact as suggested by the previously done magnetometer survey.

PREVIOUS WORK.

Previous work done the property consisted of prospecting, geological mapping, soil and silt sampling and magnetic surveying, the results of which are well documented in a report by Messrs. W.R. Bulmer and J.C. Stephen of J.C. Stephens Explorations Ltd.

GEOLOGY

The reader is referred to the previously mentioned report by Messrs. Bulmer and Stephen.

SURVEY SPECIFICATIONS.

The induced polarization (I.P.) survey was carried out using a pulse system, the principal components of which were manufactured by Huntec Limited and Phoenix Geophysics Limited of Metropolitan Toronto, Ontario.

The system consists basically of three units - a receiver (Huntec Mk IV), a transmitter and a motor generator (Phoenix). The transmitter, which provides a maximum of 2 kw d.c. to the ground, obtains its power from a 2 kw 400 Hz three phase alternator driven by a gasoline engine. The cycling rate used was 2 seconds "current-on"and 2 seconds "current-off" with the pulses reversing continuously in polarity.

The data recorded in the field consists of careful measurement of the current (I) flowing through electrodes C_1 and C_2, the primary voltage (V_p) appearing between the two potential electrodes, P_1 and P_2, during the "current-on" part of the cycle, and the apparent chargeability (M_a) obtained by sampling the decay curve between 450 and 1100 milliseconds.

The apparent resistivity (P_a) in ohm metres is then calculated as it is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used.

The survey was carried out using the "pole-dipole" method of surveying. In this method the current electrode, C_1, and the two potential electrodes, P_1 and P_2, are moved in unison along the survey lines. The spacing "na" (n an integer) between C_1 and P_1 is kept constant for each traverse at a distance roughly equal to the depth to be explored by that traverse, while that of P_1 - P_2 (the dipole) is kept constant at "a". The second current electrode is kept constant at "infinity".

On the survey a dipole of 200 feet was used, and first and second separation mensurements were obtained at 200 foot intervals along the survey lines.

The magnetometer survey was carried out using a portable GM 122 proton magnetometer manufactured by Barringer Research Limited of Rexdale, Ontario.

This instrument measures the value of the earth's total field to an accurracy of $\pm$ 5 gammas. Corrections for diurnal variations were made by tying in to previously established base stations at intervals not exceeding two hours.

Readings with this instrument were made every 50 feet along the picket lines.

DISCUSSION OF RESULTS.

The magnetometer survey confirmed the presence of the magnetic anomalies obtained on the previous survey.

The results of the I.P. survey showed that (1) low chargeability responses were obtained over the granitic rocks to the west (2) moderate and apparently background responses were observed over the central part of the lines including the magnetic anomalies and (3) higher responses were seen to the east presumably reflecting the underlying pyritic black shales.

The resistivity survey also depicted very clearly the granite-sedimentary contact on the basis of the large resistivity contrasts. In addition a large resistivity low lying to the east of the magnetic highs was obtained on all four lines. This is interpreted as being indicative of a fault zone and indeed it coincides with the southerly projection of the Emily fault zone observed to the north of the property.

Thus although the magnetic anomalies lie on or just to the east of the granite-sedimentary contact no substantial sulphide occurrences appear to be associated with them ruling out the possibility of a Bailey type pyrrhotite - magnetite - scheelite bearing skarn occurrence as the causative source of the magnetic anomalies.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

Between September 4th and 12th, 1980, Peter E. Walcott & Associates Limited carried out a limited induced polarization and magnetometer survey over part of the Ray claim group.

These claims are located near Mt. Murray in the Yukon Territory.

The magnetometer survey confirmed the presence of the previous magnetic highs at or near the intrusive-sedimentary contact. However no corresponding I.P. response was obtained.

As a result the writer concludes that the source of the magnetic anomaly was not a Bailey type pyrrhotite - magnetite - scheelite bearing skarn but possibly a band of magnetite rich volcanics and recommends no further work in this area based on the results obtained.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.,
Geophysicist

Vancouver,
British Columbia

October 1980

A P P E N D I X

COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and draughting costs were extra so that the total cost of the services performed was $9,710.25.

PERSONNEL EMPLOYED ON SURVEY.

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C. V3J 3T8	Sept. 8 - 12th Oct. 31st, 1980
Leo Perreault	Geophysical Operator	"	Sept. 5th - 12th, 80
W. Schuurman	"	"	Sept. 8th - 12th, 80
D. Mason	Geophysical Helper	"	Sept. 4th - 12th, 80
P. Carswell	"	"	"
G, MacMillan	Draughting	"	Oct. 24th, 1980
J. Walcott	Typing	"	Oct. 31st, 1980

CERTIFICATION.

I, Peter E. Walcott, of the Municipality of Coquitlam, British Columbia, hereby certify that:

1. I am a Graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.

2. I have been practising my profession for the last eighteen years.

3. I am a member of the Association of Professional Engineers of British Columbia, Ontario and the Yukon Territory.

4. I hold no interest, direct or indirect, in the securities or properties of J.C. Stephens Explorations Limited, nor do I expect to receive any.

Peter E. Walcott, P.Eng.

Vancouver,
British Columbia

October 1980

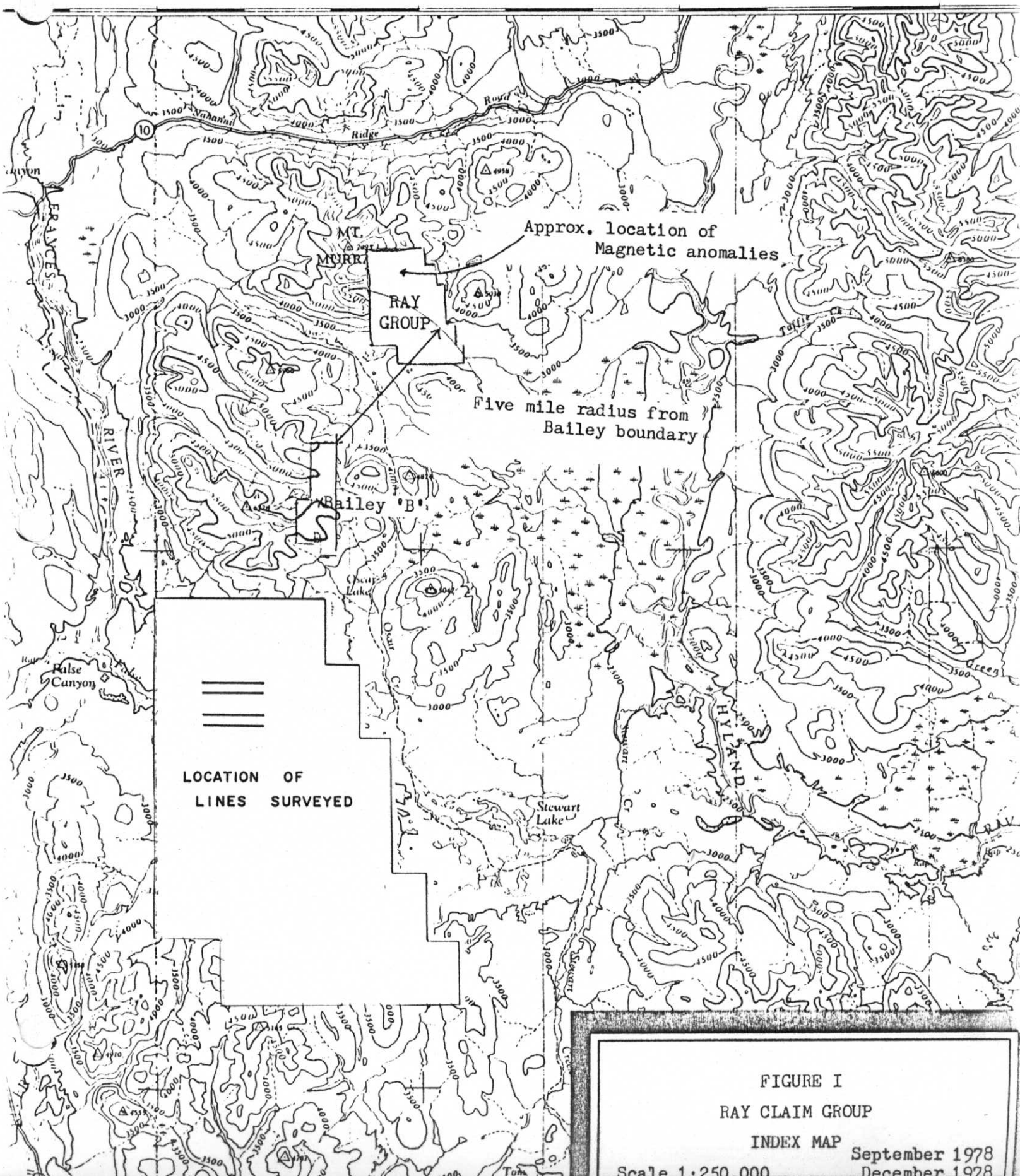


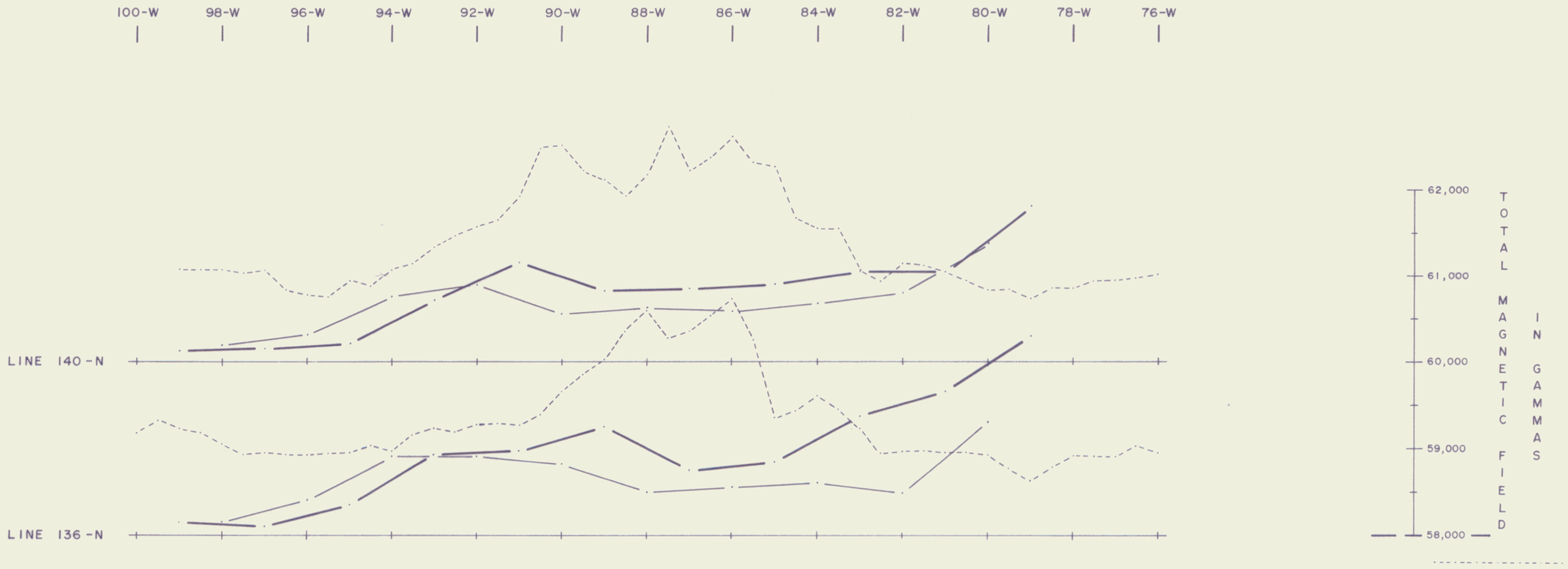
FIGURE I

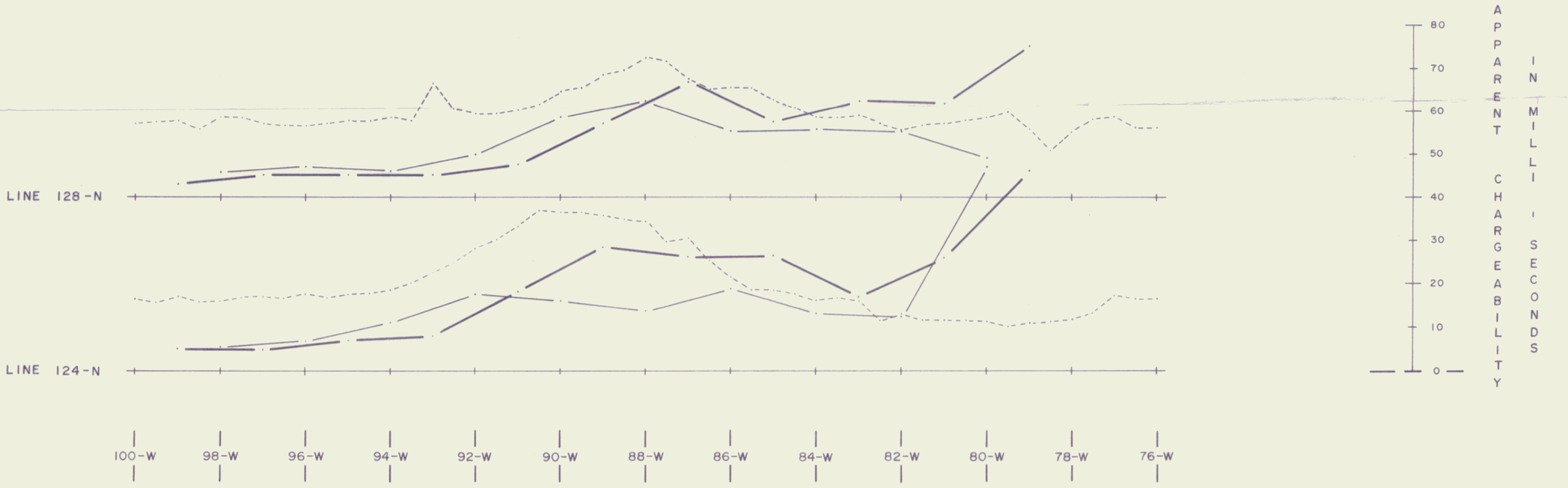
RAY CLAIM GROUP

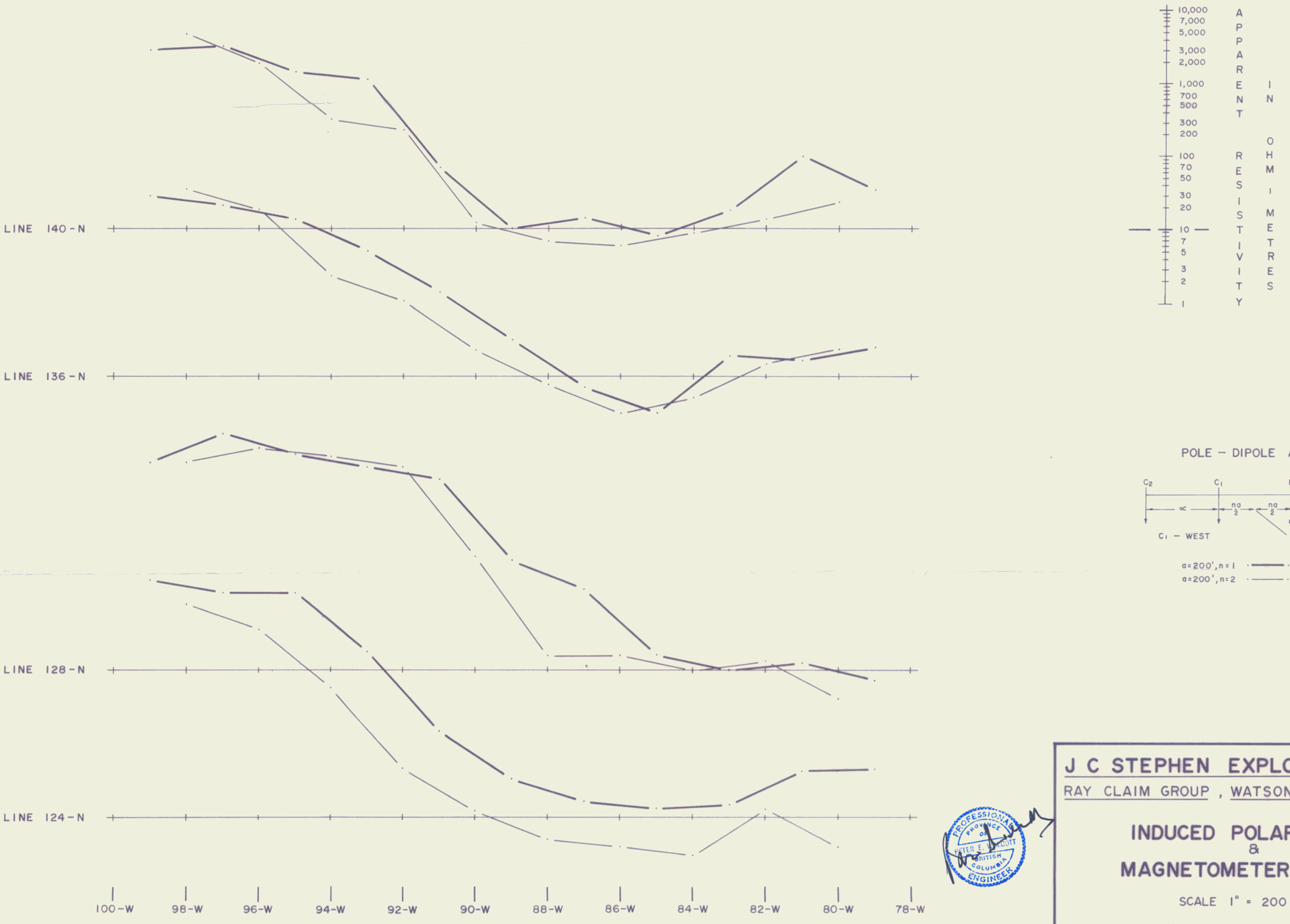
INDEX MAP

Scale 1:250,000

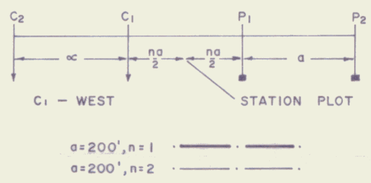
September 1978
December 1978







POLE – DIPOLE ARRAY



PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
PETER E. WALCOTT

J C STEPHEN EXPLORATIONS LTD

RAY CLAIM GROUP , WATSON LAKE M.D., YUKON

INDUCED POLARIZATION & MAGNETOMETER SURVEY

SCALE 1" = 200 FEET

MAP No. W-287-2
TO ACCOMPANY A REPORT BY
PETER E. WALCOTT, P. Eng., DATED – OCT. 1980

PETER E. WALCOTT & ASSOC. LTD.
SEPTEMBER – 1980